Seabed Resources: the Problems of Adolescence

W. FRANK NEWTON*

INTRODUCTION

Man's use of the oceans is not new. Nor for that matter are the laws regulating use of the oceans.[1] From the 17th century until the 1940's the laws governing man's use of the oceans were considered exemplary of legal stability and certainty.[2] Such legal stability and certainty were due in large measure to the relative simplicity of ocean use. In addition to limited uses,[3] there were limited users.[4] Advances in scientific knowledge and technological ability, however, led to an increase in uses as well as an increased number of users. As the types and frequency of ocean space use have increased, existing legal guidelines have become

* Member Texas Bar Assn., A.B., J.D. Baylor University, L.L.M. New York University. Lt. Newton is assigned to the International Law Office of the Judge Advocate General of the Navy.

1. The laws of the Roman Empire treated the issue of use of the seas. The concept of free use of the sea was probably first codified in the sixth century in the Code of Justinian. Fenn, *Justinian and the Freedom of the Sea*, 19 AM. J. INT'L L. 716, 716-720 (1925).

2. In 1609 Hugo Grotius expounded the concept of freedom of the seas to combat the idea of sovereign control over the seas. This idea won a general acceptance which continued for over 300 years. Craven, *The Challenge of Ocean Technology to the Law of the Sea*, 22 JAG J. 31, 32 (1967).

3. Traditionally the world's oceans have been used for surface navigation (which includes commercial and military uses) and fishing.

4. Nations with ocean going vessels were relatively few and their fleets were generally small.

patently and demonstrably inadequate. The area where existing law is seen to be most inadequate is the area of seabed resource development.[4a]

This article will attempt to briefly examine the inadequacies of the law relating to seabed resource exploitation and outline the reasons for this inadequacy. It will also examine current efforts to overcome present inadequacies. Throughout this discussion the importance of accommodating various uses will be stressed. It is recognized that such an accommodation involves an examination of ocean uses other than seabed resource exploitation. Nonetheless the primary focus of this article will be on the peculiar problems of seabed resource exploitation, although the necessity of achieving an overall accommodation with other uses is conceded.

Seabed Resources Exploitation in the Past

Before the third and fourth decades of the 20th century there was no real concern about seabed resource exploitation.[5] However, as large scale petroleum production became possible pressure for legal justification of and protection for offshore oil production mounted. This pressure ultimately resulted in the so-called doctrine of the continental shelf.

The doctrine of the continental shelf started with the issuance by President Harry S. Truman of a Presidential Proclamation on the 28th of September 1945.[6] In simple terms, the continental shelf doctrine is a statement that the coastal state has sovereign rights

4a. Other areas of concern include the problems of land-locked countries, the breadth of the territorial sea, the question of international straits, fishing and conservation of the living resources of the high seas, and the preservation of the marine environment.

5. Prior to 1945 small portions of continental shelves off the coasts of Ceylon and Bahrein had been exploited as sedentary fisheries grounds. In addition, the 1800's witnessed attempts to extend land-based mines into the subsoil of continental shelves in England, Australia, Chile, Japan and Canada. These uses of the continental shelf did not extend past the state's territorial seas or if they did, they were grounded in a special historical recognition and thus furnished no basis for a "shelf" policy. In 1942 the United Kingdom and Venezuela signed a treaty dividing the Gulf of Paria, a narrow expanse of sea between Venezuela and Trinidad, with the obvious intent of allowing for petroleum production. 1 U.N. Legislative Series 44-47, Gr. Brit. Treaty Ser. No. 10 (1942). For several reasons, including the fact that it was only a bilateral treaty obligating each party not to assert a "claim to sovereignty" over certain areas next to the coast of the other, this treaty was an instrument of passing interest at best. *See* Vallat, *The Continental Shelf*, 23 Brit. Y.B. Int'l L. 336 (1946).

6. Presidential Proclamation No. 2667, September 28, 1945, 59 Stat. 884, 10 Fed. Reg. 12303 (1945). It should be noted that President Truman also issued a fishery proclamation on the same day.

for the purpose of exploration and exploitation of the seabed mineral resources of the shelf area. The Truman Proclamation itself found quick international acceptance. Many other states issued similar statements.[7] Further, there was multilateral consideration of the doctrine under the auspices of the International Law Commission starting in 1949.[8]

From 1945 until 1958 there was an accelerated acceptance of the doctrine that littoral states have a legal right to develop and utilize seabed resources off their coasts. In 1958 an international conference promulgated the Convention on the Continental Shelf.[9] This multilateral treaty is a codification of the customary international legal rule of the doctrine of the continental shelf which had developed in the period from 1945 to 1958.[10] Named for the geographical formation on which it was anticipated that exploitation would occur, the doctrine of the continental shelf set forth in the Shelf Convention provides that a coastal state has sovereign rights for the purpose of exploring and exploiting seabed resources, which include mineral resources and living organisms of the sedentary species, to a depth of 200 meters, or beyond that to the point where the depth of the superjacent water allows exploitation.[11] In ad-

7. For a list of claims and some discussion thereof *see* Young, *The Legal Status of Submarine Areas Beneath the High Seas*, 45 AM. J. INT'L L. 225 (1951).

8. The International Law Commission placed the subject of the continental shelf on its agenda when it began its work with respect to codification of the law of the sea in 1949. 1 Y.B. INT'L L. COMM'N 43, U.N. Doc. A/CN.4/SR5 (1949).

9. Convention on the Continental Shelf, *adopted* April 29, 1958, [hereinafter cited as Shelf Convention] 15 U.S.T. 471, T.I.A.S. 5578. This Convention was entered into force on the 10th of June 1964. For general information on the convention, its legal implications and development in the area in the years preceding its adoption *see* F. Amador, THE EXPLOITATION AND CONSERVATION OF THE RESOURCES OF THE SEA (1959); I. Anninos, THE CONTINENTAL SHELF AND PUBLIC INTERNATIONAL LAW (1953); S. Oda, INTERNATIONAL CONTROL OF SEA RESOURCES (1963); and M. Mouton, THE CONTINENTAL SHELF (1952).

10. Although only approximately one-third of the nations of the world have ratified the Convention on the Continental Shelf, the writings of scholars and jurists (North Sea Continental Shelf cases, [1969] I.C.J.) and actions of states indicate that the terms of the convention are accepted as binding customary international law. REPORT OF THE NATIONAL PETROLEUM COUNCIL, PETROLEUM RESOURCES UNDER THE OCEAN FLOOR, 147-56 (1969); AMERICAN BAR ASSOCIATION COMMITTEE ON DEEP SEA MINERAL RESOURCES, INTERIM REPORT IX (19 July 1968).

11. Shelf Convention Articles 1 and 2 *supra* note 9.

dition the Shelf Convention provides for an accommodation of uses by providing that exploration and exploitation should not unjustifiably interfere with navigation, fishing, the laying of cables or scientific research.[12]

Such a multilateral convention, which recognizes generally accepted legal norms, which allows seabed resource development, and which provides for an accommodation of uses and users, would be expected to fulfill the needs of the world community. Unfortunately this expectation has not been met in the case of the Shelf Convention. The Shelf Convention's shortcomings are that it does not really provide completely for a proper accommodation of other interests, it does not establish a fixed seaward limit and it fails to provide for all seabed exploitation. Inclusion of the last two points in an assertion of shortcomings may seem strange in light of the provision that littoral state sovereignty over seabed resources extends to 200 meters or *beyond that to the point where the superjacent waters admit exploitation.*[13] One might argue that any concern about seabed resource exploitation not provided for by the Shelf Convention is definitionally unfounded,[14] since if exploitation is not possible there is no problem and if exploitation is possible then the coastal state is given exclusive control thereof.[15] Such an interpretation would allow a median line division turning the oceans of the world into national lakes as far as seabed exploitation is concerned.[16] However, the better interpretation of Article 1 of the Shelf Convention is that the term adjacency must be used to fix a seaward limit to the juridical continental shelf.[17] This being the case, two

12. *Id.* Article 5.

13. It should be noted that the test is where the superjacent waters admit exploitation and not exploration.

14. S. Oda, INTERNATIONAL CONTROL OF SEA RESOURCES 167-68 (1963); Eichelberger, *The United Nations and the Bed of the Sea*, 6 SAN DIEGO L. REV. 339, 345 (1969).

15. Under the terms of the Shelf Convention it would appear that successful exploitation by one state would effectively extend the continental shelf boundary of other states.

16. Strict adherence to an equal distance or median line division would give islands control over areas of the ocean disproportionate with their land territory. Charts showing the effect of such a division can be found at the following places: Christy, *A Social Scientist Writes on Economic Criteria for Rules Governing Exploitation of Deep Sea Minerals*, 2 INT'L LAWYER 224, 234 (1968); and Washington Post, Nov. 19, 1967, § B at 5. For a discussion of the national lake concept see Bernfeld, *Developing the Resources of the Sea-Security of Investments*, 2 INT'L LAWYER 67 (1967).

17. The exploitability test is modified and controlled by the term adjacency in Article 1, thus circumscribing global expansion. The intent of the framers appears to support this view although their thoughts were primarily that the deep ocean floor was simply beyond reach, and hence their concern did not directly address this issue. 1 Y.B. Int'l L. Comm'n

rather obvious questions arise: 1) what is the geographical or territorial limit of the littoral state's exclusive right to seabed resource development and 2) what procedures for management are appropriate for the area beyond littoral state control?

PRESENT PROBLEMS OF SEABED RESOURCE EXPLOITATION

Current developments and attitudes indicate a widespread acceptance of the idea that it is necessary to reach international agreement on the unresolved issues relating to the law of the sea. As a result of discussions during the 22nd Session of the United Nations General Assembly the world became aware that there existed a need to address the question of what was to be done with respect to the seabed resources beyond the limits of national control.[18] Prompted by concern over the inadequacy of the existing seabed resource regime, the world community also became concerned about other unsolved or unsatisfactorily resolved problems of ocean space use.[19]

An historical examination of laws relating to the use of the world's oceans demonstrates that the initial impetus came from narrow national desires. At one point nations sought to control all of the oceans or vast portions thereof.[20] When it became impossible to enforce such a system of unilateral control, a theory allowing for free universal use arose.[21] At this period of history, fishing and surface navigation were the only substantial uses of

---

135-37, U.N. Doc. A/CN 4/SR5 (1956), remarks of Professor Scelle, Sir Gerald Fitzmaurice, and Dr. Garcia-Amador. *See also* W. Burke, TOWARDS A BETTER USE OF THE OCEAN 27-28 (1969) and Young, *The Legal Regime of Deep-Sea Floor*, 62 AM. J. INT'L L. 641, 644 (1968).

18. Credit for initially raising the question of seabed resources in this context goes to Ambassador Arvid Pardo of Malta who requested the inclusion of an additional U.N. agenda item on this subject and then gave a moving speech in support of his request in the First Committee U.N. Doc. A/C.1/PV. 1515 and 1516 (1967).

19. These problems are described in two resolution passed during the 25th General Assembly of the United Nations, G.A. Res. 2749 (XXV) 1970; and G.A. Res. 2750 (XXV) 1970.

20. In 1493 Pope Alexander VI issued a bull establishing a papal demarcation line which purported to divide the world's oceans between Spain and Portugal.

21. Hugo Grotius, the father of modern international law, established his fame by advancing this theory for the Netherlands so that they could participate in lucrative East India trade.

the ocean. Most fishing during this period was done by inhabitants of littoral states in areas close to shore. Thus, there was little or no conflict between nations over fishing. Surface navigation involved the transfer of men and goods between distant points, but even so there was little conflict. When viewed in this way the agreement between states to provide for free use of the seas is basically self-serving and selfish. Even the exception to free use of the seas, the rule of a territorial sea, is clearly exemplary of states' selfish concern for their territorial integrity.[22]

When the general re-examination of the law of the sea began in the late 1960's many scholars and politicans began to sense a new level of difficulty with respect to uses of the sea. In the past expressions of self-interest could generally be accommodated in a way satisfactory to all concerned. Because the scope of exclusive interests was limited, there existed little international substantive conflict. Of course the inclusive interests were considered to present no real problems by virtue of their very nature. Viewed from this vantage point, it seemed that only unwillingness to negotiate stood in the way of the resolution of remaining or new problems. Achievement of international agreements on many ocean use problems coupled with a lack of current concern caused a general international lull.[23] However this lull was short lived.

After a scant decade it became apparent that national claims were increasing in terms of geographical scope.[24] When this increase is projected on a world-wide basis it becomes apparent that new problems of accommodation exist. In addition to this development, extensive utilization of existing ocean use rights by more and more nations, and to a greater degree, demonstrated that when the number of uses and users increases significantly, difficult problems of accommodation are created. For instance, since seabed resource exploitation related to the seabed only, it was felt that it was a use which would not conflict with navigation, be it innocent or free

22. It is a generalization to state that all rules relating to use of the oceans were long established. Some specialized rules of limited effect and longevity also existed. Most of these rules were embodied in domestic statutes which came to be known collectively as "Hovering Acts." They were aimed primarily at the prevention of smuggling. *See Generally* M. Materson, JURISDICTION IN MARGINAL SEAS (1929).

23. Of course there had just been a great deal of activity in terms of negotiating the 1958 Geneva Conventions on the Law of the Sea and there was continued activity in terms of ratification of these treaties.

24. For examples of the general rationale of such expanded claims see the "Declaration of Santigo" 4 W. Whiteman, DIGEST OF INTERNATIONAL LAW 1089-90 (1965); and the "Declaration of Montevideo" 9 INT'L LEGAL MATS. 1081 (1970).

passage.[25] In practice it soon became evident that a proliferation of oil platforms in areas several miles distant from shore presented a real hazard to and limitation on navigation.[26] To a very real degree seabed resource exploitation, long thought of as completely compatible with surface navigation, shows itself to be incompatible in part. Fishermen with their trawls occasionally sever submarine cables. The discharge of effluents by merchant vessels causes so much pollution that sport fishermen and bathers are precluded from fully using the ocean. This representative list is exemplary but not exhaustive, and its thrust is magnified as more uses and users of ocean space appear. Thus the overcrowding or loading factor so common in other areas begins to apply to ocean space. The very technology which turns man's attention to the oceans necessitates a re-examination of accommodation questions.

Inherent in such a re-examination is a re-evaluation of one's self-interest. Before, nations could stress uses most vital to their national interests with little or no internal conflict. Now, however, various previously unrestrained uses must be considered in terms of their effect on other uses. Compared to earlier national attitudes of ocean use control, the result of such a re-examinaton may appear almost altruistic.[27] Instead it is only pragmatic.

To a greater or lesser degree new attempts at accommodation will dominate the establishment of new international law controlling ocean use. Ultimately negotiations between nations will be determinative.[27a] A degree of schizophrenia may be exhibited by

25. Passage within territorial seas would have to be innocent for vessels of states other than the coastal state but would be free on high seas areas whether it was in an area over the continental shelf or beyond it.

26. For instance it has been necessary to establish fairways or sea lanes in the area of the entrance into the mouth of the Mississippi River in the Gulf of Mexico.

27. St. Thomas Aquinas is credited with having expressed the view that there is no such thing as altruism. If one does something he does it because he would rather do it than anything else, even though the deciding factor may relate to "indirect" satisfaction.

27a. This international interplay is itself an appropriate subject of study. Based on the interests considered vital by the various nations, it is possible to discern certain patterns. From these patterns one may project the type of problem resolution which will ultimately occur. For a discussion of this general subject see Gerstle, The Politics of U.N. Voting: A View of the Seabed from the Glass Palace, Occasional Paper No. 7, Law of the Sea Institute, University of Rhode Island (July, 1970); Friedheim, Factor Analy-

nations with diverse interests, and nations with limited interests may be unusually strong in a relative sense. Assuredly negotiations will be interconnecting and thus complicated.

SUGGESTED SOLUTIONS TO THE CURRENT PROBLEMS OF SEABED RESOURCE EXPLOITATION

Before nations advocate new international positions with regard to seabed resource exploitation, the question of exploitation must first be subjected to intensive national examination. Such examinations have recently taken place in some states.[28]

Sparked by activities in the United Nations,[29] an intense national examination of seabed exploitation took place in the United States. As is appropriate for a nation of diverse interests, this examination encompassed many different and even opposed views.[30]

---

sis as a Tool in Studying the Law of the Sea. PROCEEDINGS, LAW OF THE SEAS INSTITUTE 44-70 (L. Alexander ed. 1967); Friedheim, Kadane, and Bamble, *Quantitive Content Analysis of the United Nations Seabed Debate: Methodology and a Continental Shelf Case Study.* 24 INT'L ORGANIZATION 479-502 (1970).

28. Some of these examinations have been more complete than others. In light of the complexity of such examinations, re-examinations are likely from time to time.

29. *See* citations *supra* note 18.

30. For some idea of the nature of debate within Congress *see*: THE OCEANS: A CHALLENGING NEW FRONTIER, REPORT AND HEARINGS ON H. RES. 179 BEFORE THE SUBCOMM. ON INTERNATIONAL ORGANIZATIONS AND MOVEMENTS OF THE HOUSE COMM. ON FOREIGN AFFAIRS, 90th Cong., 2d Sess. (1968); HEARINGS ON S. RES. 33 BEFORE THE SUBCOMM. ON OCEAN SPACE OF THE SENATE COMM. ON FOREIGN RELATIONS, 91st Cong., 1st Sess. (1969); INTERIM REPORT ON THE UNITED NATIONS AND THE ISSUES OF DEEP OCEAN RESOURCES AND HEARINGS ON H. RES. 179 BEFORE THE SUBCOMM. ON INTERNATIONAL ORGANIZATIONS AND MOVEMENTS OF THE HOUSE COMM. ON FOREIGN AFFAIRS, 90th Cong., 1st Sess. (1967); HEARINGS ON S.J. RES. 111, S. RES. 172, AND S. RES. 186 BEFORE THE SENATE COMM. ON FOREIGN RELATIONS, 90th Cong., 1st Sess. (1967); HEARINGS BEFORE THE SPECIAL SUBCOMM. ON THE OUTER CONTINENTAL SHELF OF THE SENATE COMM. ON INTERIOR AND INSULAR AFFAIRS, 91st Cong., 1st and 2d Sess., ser. 1, pt. 1 (1970). For a detailed discussion of early Congressional debate and early consideration in the United Nations see Weissberg, *International Law Meets the Short-Term National Interest: The Malta Proposal on the Sea-Bed and Ocean Floor—Its Fate in Two Cities,* 18 INT'L AND COMP. L.Q. 41 (1969). *See also* COMMISSION ON MARINE SCIENCE, ENGINEERING AND RESOURCES, OUR NATION AND THE SEA, A PLAN FOR NATIONAL ACTION (1969); and the NATIONAL PETROLEUM COUNCIL, PETROLEUM RESOURCES UNDER THE OCEAN FLOOR (1969). For examples of this debate in purely private forums *see Uses of the Sea,* (Gullion ed. 1968); PROCEEDINGS OF THE LAW OF THE SEA INSTITUTE, University of Rhode Island (Alexander ed. 1967, 1968, 1969, and 1970); Conference on Law, Organization and Security in the Use of the Ocean, Ohio State University (1967, 1968); Wilkey, *The Role of Private Industry in the Deep Ocean,* Symposium on Private Investments Abroad, 1969 SW. L. FOUND. 1.

Assuming that there is a representative, if not exhaustive, diversity of interest within the United States, and assuming that an appropriate accommodation were made, the end result of the United States' examination should be generally acceptable, in theory, among other nations due to the "altruistic" function of an accommodation of diverse interests. Such is likewise true for France and the United Kingdom. In addition to the United States,[31] France[32] and the United Kingdom[33] have undergone internal examinations of the seabed resource question and have submitted working papers to the United Nations Seabeds Committee at its August 1970 Geneva meeting.

The documents submitted by these three nations offer some indication of what the present problems are in the area of seabed resource exploitation as well as suggesting solutions to those problems. These formulations of problems and solutions are buttressed or rebuffed by the actions other nations have taken both in the United Nations and in other international forums.[34] It thus behooves us to examine the "working papers" of the United States,[34a] France and the United Kingdom with special emphasis on identifying those areas where "altruism" has not led to the identification and proposed solution of valid problems with respect to seabed resource development.[35]

---

31. The United States position is contained in a May 23, 1970 statement by President Nixon, White House press release issued on May 23, 1970, 62 DEP'T STATE BULL. 737 (1970); and the United States Draft of U.N. Convention on International Seabed Area, 9 INT'L LEGAL MATS. 1041-80 (1970) [hereinafter United States Draft Convention], which was submitted at the August 1970 meeting of the U.N. Seabeds Committee.

32. *Proposals Concerning the Establishment of a Regime for the Exploration and Exploitation of the Seabed,* U.N. Doc. A/AC.138/27 (1970), [hereinafter cited as French Working Paper].

33. *International Regime,* U.N. Doc. A/AC.138/26 (1970), [hereinafter cited as United Kingdom Working Paper].

34. Most relevant statements made by other nations were made during the course of the August 1970 Seabeds Committee Meeting in Geneva or during the 25th General Assembly. Some relevant statements were also made, however, as a part of the September meeting of the Non-Aligned Conference in Lusaka, Zambia.

34a. The document submitted by the United States is not a working paper, rather it is a draft convention.

35. For a general discussion of current U.S. oceans policy see Ratiner, United States Oceans Policy: An Analysis, 2 J. MARITIME L. AND COMM. 225 (1971).

All three documents agree that there are problems and that they should be solved by multilateral treaty. This general formulation is buttressed by the action taken during the 25th General Assembly of the United Nations.[36] The wording of several U.N. resolutions suggests that the entire seabed has not been divided among littoral states and should not be.[37] But this view—that there exist problems with respect to seabed resource exploitation—may be subject, in terms of practical validity, to an acceptable international solution of those problems. It is generally agreed that the ambiguity of Article 1 in defining the limits of the continental shelf and the need for some basis for exploitation beyond that limit must and should be solved. However, the failure of the world community to solve these timely problems may lead to larger and larger unilateral claims.[38] A median line division of the bed of the sea between coastal states would then in effect end the problems earlier discussed without, in a sense, admitting their existence.[39]

Laying aside the unhappy, but real, possibility that there may be no successful international legal solution to existing seabed resource exploitation problems, let us turn to the first issue demanding agreement. That issue is one of the extent or delimitation; what are the geographical limits of a coastal state's sovereign control over the exploitation of seabed resources.[40]

A. Limits of Littoral State Control Over the Exploitation of Seabed Resources

In the French and British working papers the question of fixing the geographical limit of the continental shelf is not directly addressed. The Draft Convention submitted by the United States does address this question, however, and this gives some point of departure. Under the U.S. Draft Convention all areas of the seabed and subsoil of the high seas adjacent to a sovereign land mass and landward of the 200 meter isobath would be areas where only the littoral state would have rights of exploration and exploitation.

---

36. *See* citations *supra* note 19.

37. G.A. Res. 2749 and 2750 (XXV) 1970 and G.A. Res. 2574D (XXIV) 1969.

38. Failure to achieve meaningful progress by 1973 could well accelerate such claims.

39. Any type of world-wide median line division is likely to create, rather than solve, conflicts between states, at least as to the fixing of boundaries.

40. Note that Article 2 of the Shelf Convention defines the coastal state's rights as "sovereign rights for the purpose of exploring . . . and exploiting . . . natural resources."

All areas seaward of the 200 meter isobath are described as the "International Seabed Area" and made the common heritage of all mankind.[41] That part of the International Seabed Area seaward of the 200 meter isobath out to the base of the continental slope or point where the deep ocean floor begins, is made an international trusteeship of the coastal state. Within this area the coastal state would have a great deal of discriminatory control but no title to or sovereignty over seabed resources.

Despite the failure of the French and British working papers to address the question of fixing the limit of the juridical continental shelf, it is a central problem. It is important to critically examine, then, the position set forth by the United States. First, the U.S. position re-affirms total coastal state sovereignty over seabed resources out to the 200 meter isobath. This position is one well fixed under international law at the present time.[42] Most nations of the world are coastal states which consider themselves "owners" of seabed resources out to the 200 meter isobath. Consequently, recognition of this legal fact by the U.S. Draft Convention appears intrinsically sound.[43]

According to the terms of the Shelf Convention, a coastal state has sovereign rights not only out to the 200 meter isobath, but also to the point where the depth of the superjacent waters admits of exploitation, assuming the requirement of adjacency is met in both cases. At the same time it is generally agreed that there is a deep seabed which is not subject to national control. How does one draw the line between these two points? Any solution to this problem must take into account the practical aspects of geographical definition. A proposal which cannot be effected without undue expenditure of time and money and without requisite certainty constitutes a solution only in the theoretical sense.

41. United States Draft Convention, Article 1 *supra* note 31.
42. *See* citations *supra* note 10.
43. In spite of the fact that any boundary for a seabed area ought to be related to seabed configuration, nations such as Chile, Ecuador and Peru, which have very narrow continental shelves, may find it psychologically necessary to demand a formulation which is phrased alternatively in depth and miles from the coast, thus allowing a coastal state to avail itself of whichever measure will afford it the greatest breadth of control. For an example of this type of formulation see *The United Nations and the Bed of the Sea*, NINETEENTH REPORT OF THE COMMISSION TO STUDY THE ORGANIZATION OF PEACE, at 24 (1969).

The solution proposed by the U.S. Draft Convention involves a trusteeship zone for the continental slope.[44] Although it is admittedly difficult to define and fix geographically the line dividing the continental slope from the deep seabed, any division related to seabed exploration and exploitation should relate to the geological configuration of the ocean's floor. Even before the present concern over exploitation, students of the configuration of the land masses underlying the oceans spoke in terms of the continental shelf, continental slope, and the deep ocean floor.

But even if it were admitted that there exist geologically distinct seabed areas as outlined above, problems would still exist. First, there exists the problem of fixing the lines of demarcation between the areas in question. Second, there exists the problem of allocating sovereign control over the seabed resources of these areas.

The first of these problems is limited somewhat by the arbitrary but generally acceptable establishment of the juridical continental shelf by fixing the seaward limit at the 200 meter isobath.[45] In the case of the seaward limit of the continental slope a ready resolution is not so apparent. That portion of the U.S. Draft Convention addressing this delimitation recognizes this difficulty and suggests the use of a surface gradient ratio.[46] Determination of the precise gradient

> ". . . should be determined by technical experts, taking into account, among other factors, ease of determination, the need to avoid dual administration of single mineral deposits, and the avoidance of including excessively large areas in the International Trusteeship Area."[47]

By allowing for straight lines of up to 60 nautical miles in length to be defined permanently by coordinates of latitude and longitude, the U.S. proposal enhances the possibility of practical execution.[48]

Equally as important as the problem of fixing the lines of demarcation between seabed areas is the problem of allocating sovereign control over the exploitation of seabed resources of these areas. As

---

44. Chapter III *supra* note 31.

45. Under Article 1(3) of the United States Draft Convention some hill and valley jumping would be permitted in establishing the 200 meter isobath.

46. United States Draft Convention, *supra* note 31, Article 26.

47. *Id.*, Article 26, n.1.

48. Article 45 of the United States Draft Convention, *supra* note 31, provides for an International Seabed Boundary Review Commission. Coordination and assistance would be furnished to member states by this body. The Commission's members would have suitable qualifications and experience in marine hydrography, bathymetry, geodesy and geology. If, in spite of this assistance, no boundary is set, then the matter is referred to the tribunal.

has already been indicated, Article 1 of the Shelf Convention sets out an ambiguous definition of the seaward limit of a littoral state's sovereign control over seabed resources. Such control extends to the 200 meter isobath and beyond, although the extent of the area beyond 200 meters is unclear. According to the U.S. Draft, coastal state resource sovereignty would remain inviolate to the 200 meter isobath. Beyond that point jurisdiction over seabed resources would rest in the world community, as represented by the International Seabed Resource Authority, or ISRA.[49] Thus some sovereign rights over seabed resources seaward of the 200 meter isobath would be vested in the world community under the U.S. proposal. As envisaged under this proposal, however, this international investiture is not without national recompense. In the trusteeship area the coastal state would retain most of the fees paid for exploitation and would have the discriminatory right to

> a. Establish the procedures for issuing licenses;
> b. Decide whether a license shall be issued;
> c. Decide to whom a license shall be issued . . .[50]

In essence ISRA, acting for the world community, would own the resources, set certain minimum requirements, and share these designated ISRA controls, in the returns. Beyond the coastal state would be allowed certain rights. In addition to alleviating the problem of creeping national jurisdiction,[51] the trusteeship concept champions an imaginative solution to the vexing problem of an appropriate allocation of resource control. Since it would be only a happy accident if a marked geographical break lay at exactly the right spot, and such is not the case, none-the-less some line must be drawn with relation to seabed geography. Embodying a

49. For a fuller idea of what ISRA involves see United States Draft Convention, *supra* note 31, Chapter IV.

50. *Id.*, Article 28.

51. One occurrence which was stimulated by the Truman Proclamation and subsequent development of the continental shelf doctrine, and which was reflective of the broad scope of changes so characteristic of the mid-1900's, was the appearance of "creeping jurisdiction." Statement by Department of State Legal Adviser John R. Stevenson, 63 DEP'T. STATE BULL. 209, 210 (1970). This "creeping jurisdiction," or proclivity of states to assert more extensive claims both in terms of area and degree of control, was most evident in cases where states felt that their particular special interests were not being met. Sometimes the nations unhappy with their lot tied their actions to precedent (for example, President J.L. Bustamante Rivero of Peru by a Presidential Decree dated 1 August 1949 proclaimed

more or less fixed or fixable geographic point, the trusteeship zone offers room for allocation in terms other than area. A change of the percentage of fees retained by the trustee state or a change in its discriminatory power can easily give a readily measurable benefit to either the international community or the coastal state. Negotiation with respect to the type and extent of coastal state control will tend to be carried on by those favoring greater international ownership, on the one hand, those who consider that they have a vested sovereign interest in seabed resources beyond 200 meters on the other. Both material and theoretical interest in this area are of some magnitude and it is thus encouraging to see a flexible vehicle proposed as a means for resolving this difficult point.

To date one other rather interesting, if not unexpected, point of concern has manifested itself with regard to the trusteeship proposal. Because civil law nations have no exact legal counterpart to our common law trusteeship, use of that term has caused some consternation and apprehension in international circles. Even if civil law countries never became fully conversant with our concept of the fiduciary relationship, the accommodation afforded by a "trusteeship" zone concept is sure to be appreciated.[52]

B. *An International Body for Areas of International Control of Resource Exploitation*

Neither the French nor British working paper sets out in any detail an international body for the area beyond national control, although, along with the U.S., they recognize the importance of such a body. An institution called the Board of Governors—vaguely defined as a body elected by a plenary conference of those states parties to a new seabed resource agreement and having the responsibility of administering such of the provisions of the agreement as are within the competence of the international body—

---

sovereignty over the epicontinental waters covering Peru's shelf out a distance of 200 miles and in so doing cited declarations made by the President of the United States, Mexico, Argentina and Chile) and sometimes they eschewed precedent on the grounds that they had no part in its creation. Whether one's interests caused "creeping jurisdiction" to be viewed with alarm or delight, the existence of "creeping jurisdiction" has an unsettling influence on the law of the sea. It will be interesting, assuming the trusteeship concept is accepted, to see if a type of creeping international jurisdiction develops.

52. It must be noted that the term "trusteeship" does not represent the use of a legal phrase under the common law. The term as used in the United States Draft Convention means only what it is defined to mean therein.

is proposed by the United Kingdom.[53] Based on the different characteristics of hard mineral and hyrdro-carbon exploitation, the French proposal outlines an international body to serve as a clearing house for simple registration of non-exclusive licenses in the case of hard mineral exploitation.[54] In the case of hydro-carbon exploitation there would exist a Conference of Plenipotentiaries (backed by a Technical Committee) empowered to make decisions on conflicting claims and also to consider reported violations of applicable regulations.[55] The U.S. Draft Convention also recognizes the difference between hard mineral exploitation, which will apparently involve mobile suction or dredging equipment[56] and thus not necessitate exclusive licensing, and hydro-carbon exploitation, which will involve fixed equipment and thus necessitate exclusive licensing.[57]

In the U.S. Draft Convention, and also in general terms in the working papers of the United Kingdom and France, there exists a tendency to establish rather exactly the perimeters for development of resources. Under these schemes the international institution is primarily concerned with the registration of non-exclusive licenses or granting of exclusive licenses pursuant to previously agreed upon formulas. This general arrangement is the only realistic approach since all nations will want to be fully apprised of the effects of an international regime before agreeing to accept it by ratifying a multilateral convention. Past experience indicates, however, that some body, with the power to apply these rules in specific circumstances and make certain adjustments from time to time, is necessary to a viable regime. This need is most closely met by the bodies outlined in the U.S. Draft Convention.

The operating agency under the U.S. proposal, ISRA, would be made up of an assembly, a council, and a tribunal.[58] The assembly would be made up of all contracting parties with each state having

53. United Kingdom working paper, *supra* note 33, principle 6.
54. French working paper, *supra* note 32, Section I.
55. *Id.* at Section II.
56. See Covey, Ocean Mining System Completes Tests, UNDER THE SEA TECHNOLOGY, Oct. 22, 1970.
57. United States Draft Convention, *supra* note 31, Appendix A.
58. *See generally* chapter IV of the United States Draft Convention, *supra* note 31. The tribunal would pass on the legality of measures taken under the Convention in terms of the "constitutional" limitations pro-

one vote and, except as otherwise provided, would make decisions by a majority vote of the members present and voting.[59] Actions taken by this council would be largely dependent on submissions from the council.[60] This council would be comprised of twenty-four contracting parties in two categories: one including the six most industrially advanced contracting parties[61] and the other including eighteen elected states at least twelve of whom would be developing countries.[62] Decisions by the council would require approval by a majority of all members, including a majority in each of the two major categories.[63]

Given the necessary restrictions of a treaty establishing an international seabed regime, it is still important to have a functional international administrative body. Past and existing international bodies demonstrate the problems inherent in establishing a proper power distribution in such bodies. It appears that the drafters of the U.S. proposal have drawn on the lessons of the past. In essence the power distribution under ISRA is one which rejects a simple one nation one vote rule as well as a rule involving a simple veto. Employment of the one nation one vote rule inevitably leads, in this time of the micro-state, to the "approval" of concepts unacceptable in terms of the real-world distribution of power. In addition to being ineffective, such exercises do much to impede the progress of international law. At the other extreme, allowing one nation the power of a veto ultimately results in a body incapable of taking meaningful action in any but the most extreme circumstances. Whether or not the precise formulation set forth in the U.S. proposal will ultimately be accepted is questionable, but its general thrust appears beyond reproach.

C. *Rules of Exploitation and the Distribution of Benefits*

Even as rules for the various uses of ocean space are inexorably linked, so the issues of the limits of littoral state seabed resource exploitation control, the establishment of an international body for areas of international control, and the basic rules of an international seabed regime are intertwined. Inter-relations and dependencies

---

vided by the Convention, pass judgment on disputes between parties relating to interpretation and application of the Convention, and exercise compulsory jurisdiction with respect to complaints of failure to fulfill obligations under the Convention.

59. *Id.* at Article 34.
60. *Id.* at Article 35.
61. *Id.* at Article 36.
62. *Id.*
63. *Id.* at Article 38.

of this sort make it difficult to assign importance to these areas except in the most general terms. This multifaceted problem may be most appropriately understood only in terms of groupings which take into account a type of rationale akin to that underlying the theory of permutations and combinations in mathematics. Nonetheless a crucial part of any seabed resource grouping is represented by rules for exploitation and the distribution of benefits.

All three of the proposals submitted at the August meeting of the Seabeds Committee in Geneva expressly indicated that some differentiation could be made between hard mineral exploitation and hydro-carbon exploitation.[64] To the extent the assessment that hard mineral exploitation does not necessitate exclusive licensing (and there is no reason to doubt it) there would appear to be no problems with a simple registration procedure.

No simple registration will handle allocation of areas of exploitation in the case of hydro-carbons, however. Exploitation of hydro-carbons necessitates exclusive licensing and thus demands some basis for resolving competing requests. Competitive bidding on a cash basis is set forth in the U.S. proposal as the appropriate means of allocating hydro-carbon exploitation.[65] Agreement on a fixed proportion of the seabed area which would be open for application by the various states party is suggested by the United Kingdom.[66] The United Kingdom further suggests that the congregate of state allowances be for fixed portions of the total international seabed area for successive fifteen year periods.[67] By stating that the same state should not be granted more than a certain total area of square kilometers, France also indicates the advisability of some limitation on the authorization of state exploitation.[68]

Any licensing by the international community of an individual state allowing exploitation by that state in a given area must be subject to some control other than purely competitive bidding.[69]

64. See Section I of the French working paper, *supra* note 32; principle 8 of the United Kingdom working paper *supra* note 33; and Appendix A of United States Draft Convention *supra* note 31.
65. United States Draft Convention, *supra* note 31 Appendix B.
66. United Kingdom working paper, *supra* note 33 Principle 8.
67. *Id.*
68. French working paper, *supra* note 32 Section III.
69. All three proposals involve the idea that dealings would be with

It is true that the world community derives collective benefit from payment of licensing fees and royalties. To that extent the collective benefit is maximized by unrestrained competitive bidding. But surely no one would be so naive or brash as to suggest that the receipt of royalties is the only matter of concern. Control over those companies actually exploiting seabed resources involves matters of law, politics and economics which collectively amount to a very significant package for members of the family of nations. Concern for internationalization of seabed resource exploitation must thus, as correctly suggested by the United Kingdom and France, involve some method of assuring that one state or one group of states does not monopolize exploitation.[70]

As important as a limit on bidding is some minimum assurance of dissemination of technological competence. The fact that advanced states would be limited does not in and of itself assure the less developed states that they can enjoy those rights reserved for them. They must have the technological capacity and the means necessary before they can participate. Most proposals designed to equalize technological skill are highly complex and generally objectionable either to the developed or developing states. That progress which has been made in this area has generally occurred in connection with the requirements of hydro-carbon concession agreements. Using this as a guide, attention might be focused on exploitation rules which make it attractive for companies with appropriate technological skill to seek the sponsorship of developing nations. For instance, a checkerboarding of the international seabed area with certain checkerboard areas being licensable only through developing states might be considered. If a promising area were developed then there would be an obvious advantage in obtaining a license for a connecting area. If that area could only be licensed through a developing country, oil companies would be encouraged to seek their sponsorship. The fixing of a ratio between licenses to be issued developed and developing nations might also be considered. Under such a scheme, once a certain number of licenses had been issued through developed states there would be no more licenses available to them until a certain number of licenses had been issued through developing states.

At least two other reasons for controlling exploitation must be considered. One is mentioned by the working papers,[71] the other

states, that would in turn sponsor or authorize individuals or corporate entities to actually conduct exploration and exploitation.

70. This discussion does not cover non-exclusive exploitation.

71. United Kingdom working paper, *supra* note 33 Principle 8; and French working paper, *supra* note 32 Section III.

in a resolution passed by the General Assembly.[72] Control of exploitation so that it is extended over a period of time suggests the need to ration irreplaceable resources and a need to maximize production. Both concerns are similar and fall under the broad heading of conservation. This area has not been addressed in detail to date. Perhaps one of the reasons for this reluctance stems from the fact that such conservation measures tend to have direct economic impact on the world resource market.

The question of market control is the other subject which must be considered. It will undoubtedly stimulate a heated discussion. Both in the area of hydro-carbon production and in the area of hard mineral production, seabed exploitation represents a disruptive factor for land-based resource development.[73] In the case of certain hard minerals, seabed production could simply shut down land mining.[74] To a nation whose economy is substantially dependent on such a mining industry the question involved here is one of econnomic life or death. To all nations who produce the resources existing on the seabed and to those nations who are purchasers of these resources or who are producers and purchasers depending on the resource, the issue of market control is also important. Some internationally administered program for preventing a disruptive change in price and production patterns must be devised. A price and unit production control which would provide for a gradual shift from land to seabed exploitation could accomplish this goal. Individual resources could be treated differently and states dependent on land based exploitation might simply be assured a vested interest in transition, either absolute or relative, to seabed exploitation. That is, a nation could be promised ownership of a certain portion of resource seabed exploitation to replace its land based resource exploitation. Obviously this is not a simple problem. Hopefully the report of the Secretary-General on this matter[75] will contribute significantly to a resolution of the market control problem.

The remaining concern in terms of the substance of a seabed re-

72. G.A. Res. 2750A (XXV) 1970.
73. J. Mero, THE MINERAL RESOURCES OF THE SEA, 50-80 (1965).
74. Mero, *A Legal Regime for Deep Sea Mining*, 7 SAN DIEGO L. REV. 488, 489-90 (1970).
75. G.A. Res. 2750A, *supra* note 72.

source agreement is that relating to the distribution of benefits. Inherent in any program involving international ownership of seabed resources is the expectation of revenue from exploitation of the resources.

France suggests in its working paper that the funds derived from exploitation be contributed to the international community with an appreciable share going to developing states.[76] The state making the royalty payment would be allowed to contribute that sum, which would be fixed, as it saw fit.[77] Both the United Kingdom[78] and the United States[79] suggest a fixed payment to be administered through an international body. A fixed portion for certain regions of the world to be administered to individual states by designated regional organizations is suggested in the U.S. Draft Convention.

Settlements or agreements involving money are never easy. Agreement on the amount of money to go to developing nations and a division among them will not come quickly. It is encouraging to note that present formulations do involve special consideration for developing states and allow non-discriminatory participation of land-locked and shelf-locked nations. Utilization of regional organizations may well reduce this problem to manageable proportions and foster the growth and strength of regionalism.

There exists another problem with respect to the future of international seabed resource development; a problem peculiar to technologically advanced nations. The problem is whether there will be exploitation of resources beyond the 200 meter isobath between the present and the time when a multilateral treaty comes into effect. If there is to be such exploitation, what form will it take? This point was referred to by President Nixon in his May 23rd statement.[80] Such exploitation beyond 200 meters is, of course, not clearly proscribed by existing international law.[81] National exploitation of this area is being and will continue to be advocated.[82] Past experience with the Truman Proclamation has

76. French working paper, *supra* note 32 Section IV.
77. Such control by the exploiting state smacks too much of "colonialism" to be internationally acceptable.
78. United Kingdom working paper, *supra* note 33 Principle 10.
79. United States Draft Convention, *supra* note 31 Appendix D.
80. United States Draft Convention, *supra* note 31.
81. *See* citations, *supra* note 17.
82. J. Laylin, Past, Present and Future Development of the Customary International Law of the Sea and Deep Seabed, (Manuscript submitted to INT'L. LAWYER). *See* United States Draft Convention, *supra* note 31 Article 73 for an indication of the nature of the interim policy set forth by the U.S.

shown that any action by a nation such as the United States is magnified many times over by similar acts on the part of other states. Often criticial distinctions of fact, law or policy, so assiduously propounded by the first state to act, are ignored by other states in their imitative actions. It is possible that declarations, statutes or actions by the United States or other technologically advanced states which spark extensive exploitation beyond 200 meters could give rise to a mass proliferation of exploitation statutes and decrees by other nations. Such a proliferation of national actions would amount to a repudiation of the concept of resolving resource issues internationally as that concept is expressed in the U.N. "common heritage" principle and President Nixon's Ocean Policy pronouncement. The existence of real or imagined jurisdictional claims could make ultimate agreement difficult if not impossible. The psychology of "creeping jurisdiction" would be accelerated, resulting in a smaller available area for internationalization. Certainly there would be less incentive to seek multilateral agreement. The United States and other technologically advanced nations may face a hard choice between interim exploitation beyond 200 meters and a successful international agreement. Hopefully the latter goal will be the one pursued.[83]

Not all problems involved in the rules for exploitation and the distribution of benefits have been discussed. Other problems such as special consideration for enclosed or semi-enclosed bodies[84] demand resolution as a part of any final agreement. Nonetheless the issues discussed in this article lie at the heart of such an agreement.

Based on this discussion, what is the future of seabed resource exploitation?

The Future of Seabed Resource Exploitation

John R. Stevenson, the legal adviser to the Department of State, speaking on the U.S. policy for law of the sea indicated that international law serves several functions including:

> First: Prevention of conflict . . .
> Second: Security . . .

83. Because of inter-relation between seabed resource exploitation and other law of the sea questions, failure to reach agreement in this area will adversely affect chances for agreements in other areas.
84. *Id.*, Article 26, n.1.

> Third: Accommodation of interests . . . and . . .
> Promotion of common or community objectives and providing guideposts on matters heretofore dealt with on a strictly bilateral basis . . . .[85]

If only one could confidently and correctly predict that since the functions served by international law are necessary to a rational control of areas of international concern, and since the oceans of the world are such an area of concern, international law will be allowed to serve its functions with respect to seabed resource exploitation. Unfortunately such a prediction is no more reliable than predictions about the weather. At least much has been done—we have identified many problems, suggested some solutions, and affirmed our intent and willingness to formulate a new international legal regime.

This examination of the inadequacies of the law relating to seabed resource exploitation and the reasons for this inadequacy has revealed the story of a short childhood. Examination of current efforts to overcome present inadequacies reveals a typically confused adolescence. Both the United States and most members of the world community are committed, on record, to the task of guaranteeing the achievement of maturity for the adolescent. Let us hope that the guarantee is good.

85. Address before the Philadelphia World Affairs Council and Philadelphia Bar Association, Feb. 18, 1970, 9 INT'L. LEGAL MATS. 434-35 (1970).